GeoVision inc
The Vision of Security

Quick Start Guide

GV-Mobile NVR System

The Vision of Security

Thank you for purchasing GV-Mobile NVR System. This guide is designed to assist the new user in getting immediate results from the GV-Mobile NVR System. For advanced information on how to use the GV-Mobile NVR System, please refer to *GV-Mobile NVR System User's Manual* (GV-Desktop < **Program** button < **User Manual**).

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English
MBNVR-QG-A

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1. Introduction

Welcome to the *GV-Mobile NVR System Quick Start Guide*. In this quick guide, you will find information on the basic installation and configurations of the GV-Mobile NVR System. For detailed information, see *GV-Mobile NVR System User's Manual* (GV-Desktop < **Program** button < **User Manual**).

1.1 Packing List

1. GV-Mobile NVR System
2. 3-pin Terminal Block (for ACC Connection and DC In)

3. HDD screw x 4 (for GV-MNVR1000 System)
4. HDD screw x 8 (for GV-MNVR2100 System)
5. GPS Antenna
6. GV-NVR Dongle for third-party IP Camera Connection (Optional)
7. DVD (User's Manual and Quick Start Guide included)

1.2 Software License

Free License	24 / 32 channels from GV-IP Devices
Maximum License	24 / 32 channels from third-party IP devices
Increment for Each License	1 to 24 / 32 third-party IP cameras at an increment of 2
Optional Combination	N/A
Dongle Type	External

1.3 Recommended Hard Disks

GV-Mobile NVR supports up to 2 SATA HDD / SSD (2.5”) with up to 2 TB capacities. For the optimal system performance, it is recommended to use the SSD (MLC or SLC) or the enterprise-level HDD, such as HGST Endurastar series and Toshiba automotive HDD.

1.4 Options

Optional devices can expand your GV-Mobile NVR System's capabilities and versatility. Contact your dealer for more information.

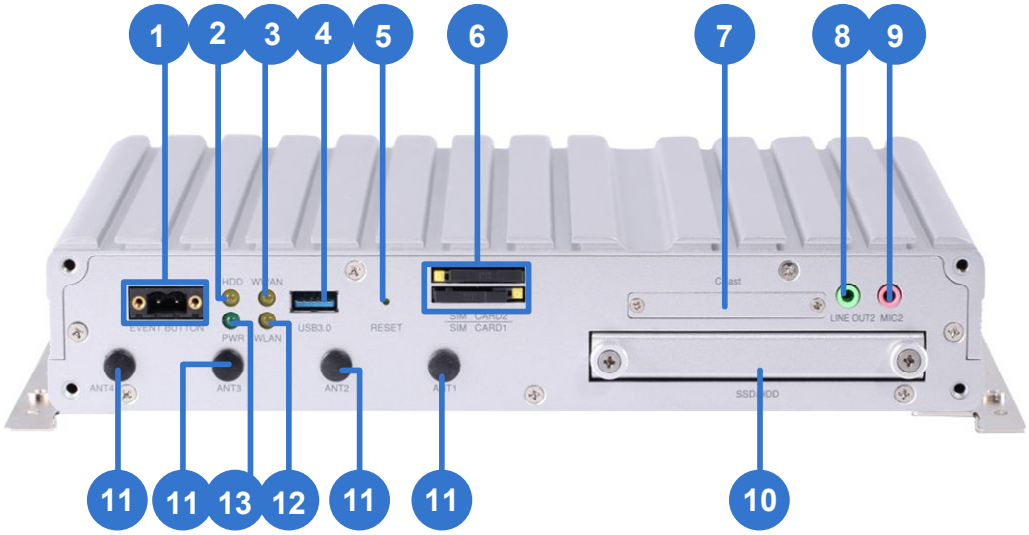
GV-IO Box (4 Ports)	GV-IO Box 4 provides 4 inputs and 4 relay outputs, and supports both DC and AC output voltages. A USB port is provided for PC connection.
GV-IO Box (8 Ports)	GV-IO Box 8 provides 8 inputs and 8 relay outputs, and supports both DC and AC output voltages. A USB port is provided for PC connection.
GV-IO Box (16 Ports)	GV-IO Box 16 provides 16 inputs and 16 relay outputs, and supports both DC and AC output voltages. A USB port is provided for PC connection.
GV-Joystick V2	GV-Joystick V2 facilitates the PTZ camera control. It can be either plugged into the GV-Mobile NVR System for independent use or connected to GV-Keyboard V3 to empower the operation.
GV-Keyboard V3	The GV-Keyboard V3 is designed to program and operate the system, and it can also be connected with PTZ cameras directly for PTZ control.
GV-IR Remote Control	Controls GV-Mobile NVR System with the Remote Control.
GV-TouchDisplay133	The GV-TouchDisplay133 is a touch panel designed for GV-Mobile NVR System. With the touch panel, you can monitor live images and operate its OSD functions.
Power Adapter	Power adapters are available in 4 regions: U.S.A., Australia, U.K and Europe.
3G / 4G Module	The 3G or 4G module allows data exchange for the GV-Mobile NVR through the network connection covering wide area. It also empowers the application of GPS for the data transmission to the GV-GIS for real-time vehicle tracking.
WiFi Module	The WiFi module allows data exchange for the GV-Mobile NVR through wireless network connection within local area.

Note: The WiFi / 3G / 4G module will be built in the GV-Mobile NVR System and tested before shipment. Opening the case and installing the accessories yourself will void the warranty.

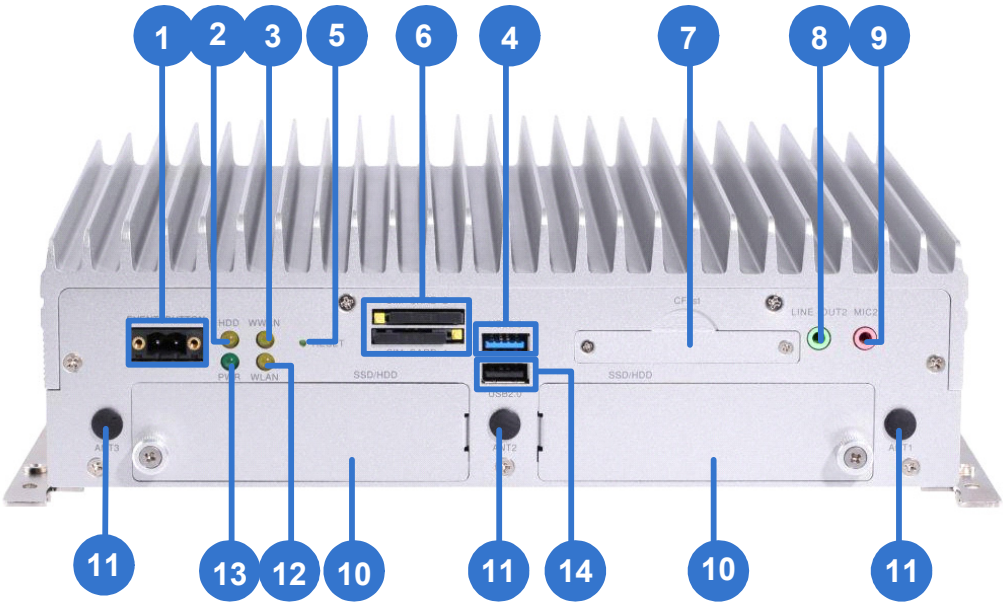
1.5 Overview

1.5.1 Front View

GV-MNVR1000 System



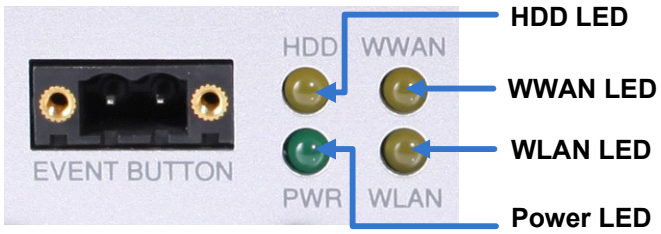
GV-MNVR2100 System



No.	Name	No.	Name
1	Event Button (Not Functional)	8	Audio Line Out Port
2	HDD Status LED	9	Audio Microphone In Port
3	WWAN LED	10	2.5” HDD/SSD Slot
4	USB 3.0 Port	11	Antenna Port
5	Reset Button	12	WLAN LED
6	SIM Card Slot	13	Power Status LED
7	CFast Card Slot	14	USB 2.0 Port

Note: The WLAN WiFi and WWAN 3G / 4G module is optional.

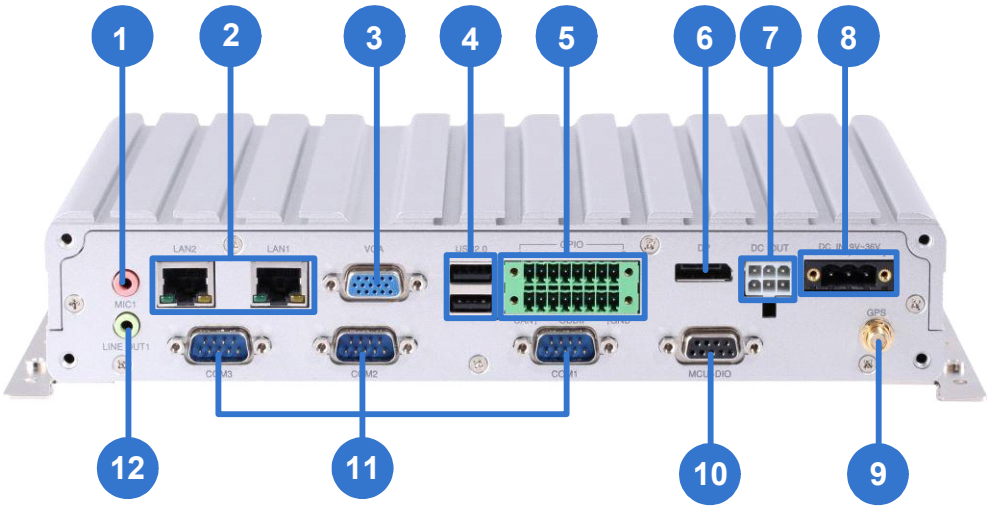
Status Indicator LEDs



Indicator LED	Color	Description
HDD LED	Orange	Glows when HDD/SSD is active.
WWAN LED	Orange	Glows when WWAN is active.
WLAN LED	Orange	Glows when WLAN is active.
Power LED	Green	Glows when power is turned on.

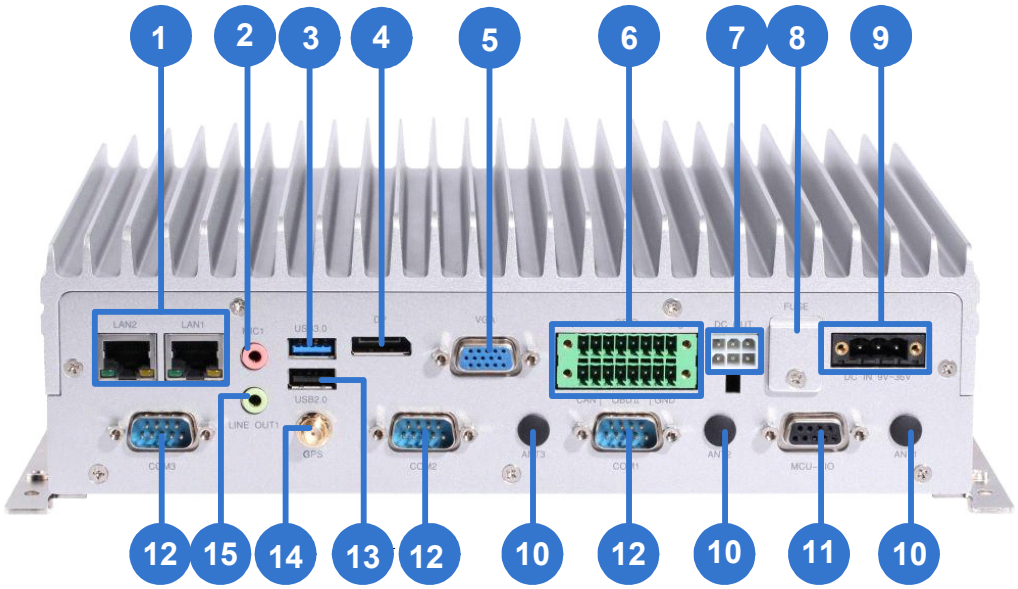
1.5.2 Rear View

GV-MNVR1000 System



No.	Name	No.	Name
1	Audio Microphone In Port	7	DC Power Output (Not Functional)
2	Gigabit Ethernet Port x 2	8	DC 10 V - 35 V Power Input
3	VGA Output	9	GPS Antenna Port
4	USB 2.0 Port x 2	10	MCU DIO Port (Not Functional)
5	GPIO Terminal Block (Not Functional)	11	COM Port x 3
6	DisplayPort Output	12	Audio Line Out Port

GV-MNVR2100 System

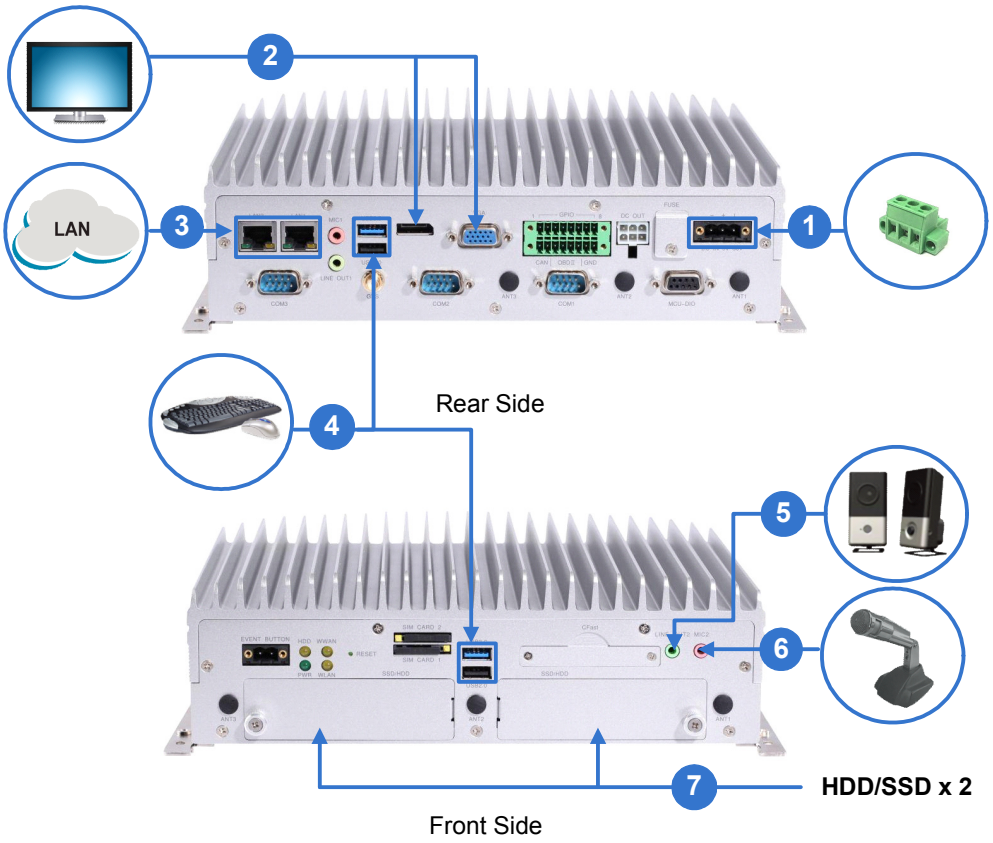


No.	Name	No.	Name
1	Gigabit Ethernet Port x 2	9	DC 10 V - 35 V Power Input
2	Audio Microphone In Port	10	Antenna Port x 3
3	USB 3.0 Port	11	MCU DIO Port (Not Functional)
4	DisplayPort Output	12	COM Port x 3
5	VGA Output	13	USB 2.0 Port
6	GPIO Terminal Block (Not Functional)	14	GPS Antenna Port
7	DC Power Output (Not Functional)	15	Audio Line Out Port
8	Fuse (15A)		

2. Getting Started

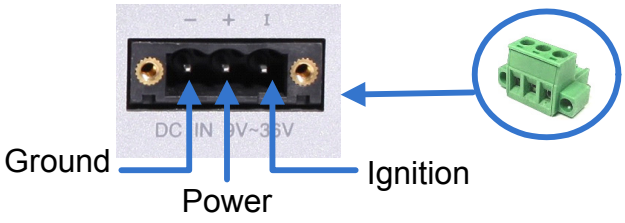
2.1 Interface Connection

This section describes the equipments required to operate the GV-Mobile NVR System. Here we use the GV-MNVR2100 System for example.



1. There are two options for connecting the power.

   A. Connect the GV-Mobile NVR System to the vehicle's power battery and ACC wire using the supplied 3-pin terminal block. The system will automatically start after you turn on the vehicle ignition. Power is supplied to the system as long as the vehicle ignition is on.



B. Optionally purchase a power adapter from GeoVision. See *2.2 Turning on and off the Power*.

2. Use the VGA cable or the DisplayPort cable to connect the unit to the monitor.

Note: The GV-Mobile NVR System supports dual-monitor display. You can connect two monitors by using the VGA connector and DisplayPort.

3. Connect one end to the Gigabit Ethernet port and the other end to Network by using the RJ-45 cable.
4. Connect the keyboard and the mouse to the USB ports.
5. Connect the speaker to the Audio Line Out port.
6. Optionally connect the microphone to the Audio Microphone In port for two-way audio with IP cameras.
7. Insert the 2.5” HDDs or SSDs into the storage slots. For details, see *2.3 Installing the Storage Drive*.

After the unit is powered on, the Power Indicator LED shows constant green.

Before recording, you need to format the storage drive and add it to the recording path of the system. For formatting the storage drive, see *2.4 Formatting the Storage Drive*. For adding the storage drive to the recording path, see *3.1.1 Adding the Storage Drive to the Recording Path*.

2.2 Turning on and off the Power

The GV-Mobile NVR System is designed to connect to the vehicle's ACC wire. However, you can optionally purchase a power adapter (AC 100 ~ 240 V) from GeoVision for power connection.

2.2.1 Connecting to the ACC Wire

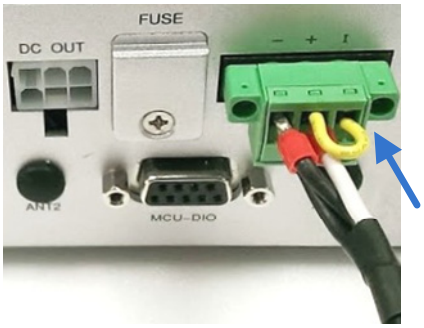
To turn on the GV-Mobile NVR System, connect the vehicle's ACC and power wires to the unit's power input using the supplied 3-pin terminal block. The system will automatically start after you power on the vehicle for 5 seconds.

After you power off the vehicle for 3 seconds, the system will turn off automatically.

2.2.2 Using the Power Adapter

To turn on and off the GV-Mobile NVR System using an optional power adapter from GeoVision, follow the steps below.

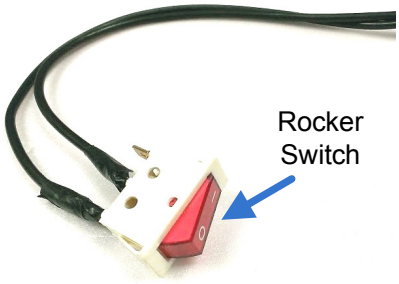
1. Plug the 3-pin terminal block connected with power adapter to the panel's power pins. The GV-Mobile NVR System will be powered on about 5 seconds later.



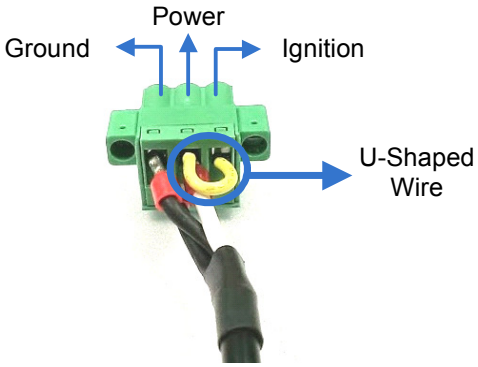
2. To turn off the GV-Mobile NVR System, shut down the system through the Windows desktop.

Using Rocker Switch to Simulate ACC Ignition

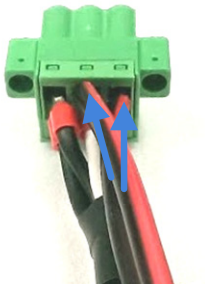
For quick control of turning on or off the GV-Mobile NVR System, you can install a rocker switch to the 3-pin terminal block with the optional power adapter. For the connection and operation, follow the steps below.



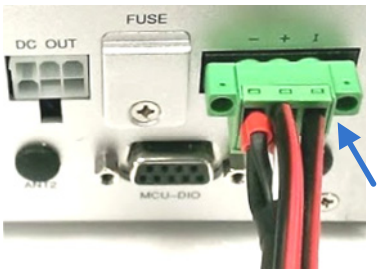
1. For the 3-pin terminal block with optional power adapter, unplug the U-shaped wire from the Power and Ignition pins.



2. Connect the wires of the rocker switch to the Power and Ignition pins respectively.



3. Plug the terminal block to the panel's power pins.



4. Press the rocker switch to turn on the GV-Mobile NVR System without operating on the Windows desktop. Once the rocker switch is on, the GV-Mobile NVR System will be powered on about 3 seconds later.

5. To turn off the GV-Mobile NVR System, press the rocker switch again.

Note: After the power is on, the GV-Mobile NVR System will run a series of self-tests, and a series of messages may be displayed as the various hardware and software subsystems are activated. After the process is finished, the GV-System Software (Multicam Surveillance System) should load automatically and bring you to the main screen.

2.3 Installing the Storage Drive

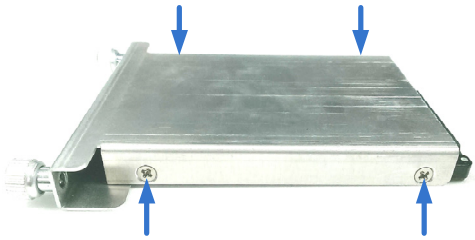
The GV-Mobile NVR System uses SATA hard drive / SSD for video data storage. Before recording, be sure to install the storage drive.

2.3.1 GV-MNVR1000 System

1. Loosen the thumb screws on the HDD/SSD slot and pull out the drive drawer.

2. Insert the storage drive into the drive drawer with the SATA data and power connector facing towards the end.

3. Secure the storage drive with the drive drawer using the supplied 4 screws.



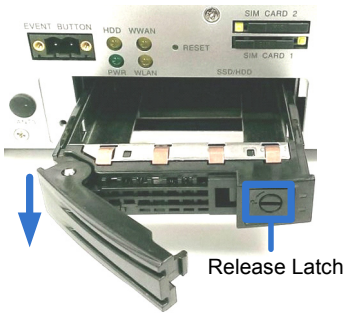
Note: For convenience, it is suggested to secure the screws with the drive drawer being placed downward.

4. Insert the drive drawer into the HDD/SSD slot and secure the thumb screws.

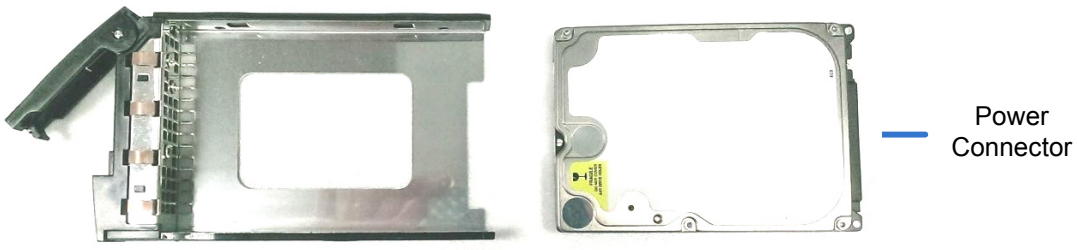
2.3.2 GV-MNVR2100 System

1. Loosen the thumb screws on the HDD/SSD slots and remove the covers.

2. Press the release latch and pull out the drive drawer using the drawer handle that pops out.



3. Insert the storage drive into the drive drawer with the SATA data and power connector facing towards the end.



4. Secure the storage drive with the drive drawer using the supplied 4 screws.
5. Insert the drive drawer into the HDD/SSD slot, put the drawer handle back and rotate the release latch until it is vertical to lock the drive drawer.

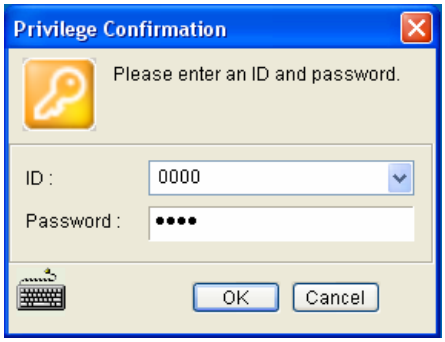
6. Put the cover back and secure the thumb screw.
7. Repeat the steps above to install the storage drive in the other HDD/SSD slot.

The HDD Status LED glows, and the storage drive is ready for use.

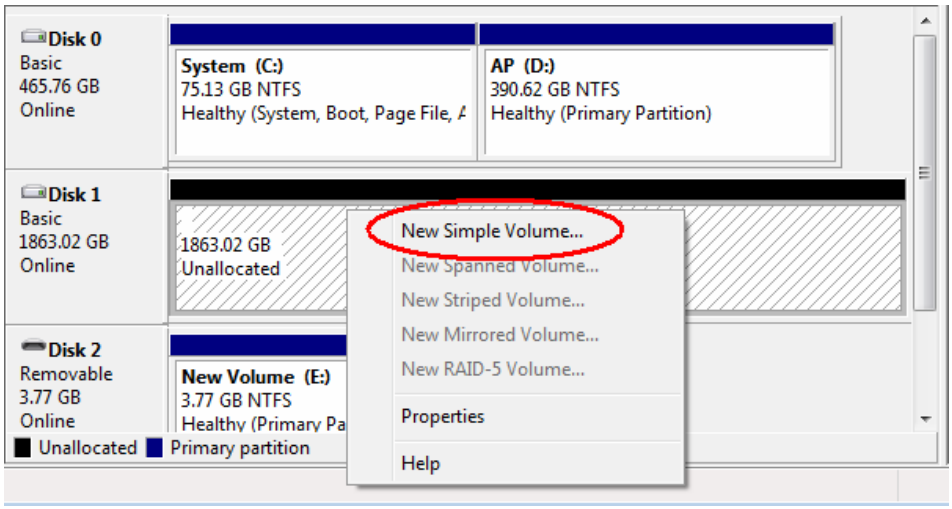
2.4 Formatting the Storage Drive

After installing HDD / SSD to your system, you will need to format the storage drive before recording.

1. On the GV-Desktop, click the **Programs** button, and select **Disk Management**.
2. Type the ID and password in the dialog box. The default ID and password are "**0000**".

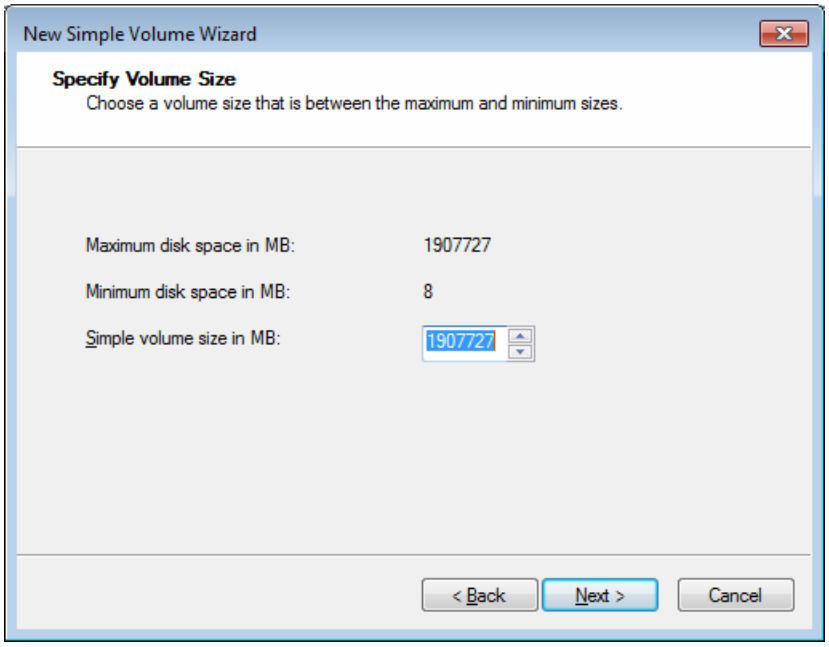


3. Right-click in the unallocated space of a new drive, and select **New Simple Volume**.

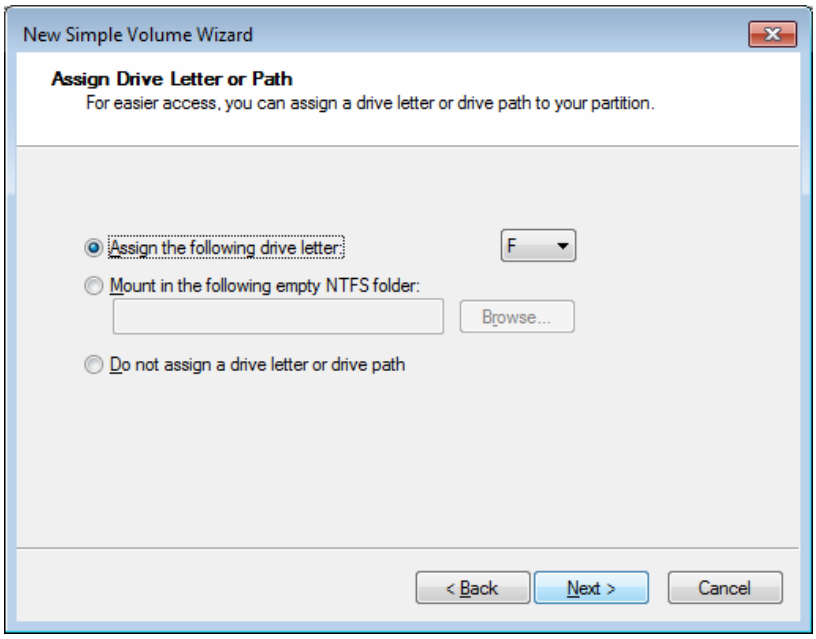


4. In the appeared New Simple Volume Wizard dialog box, click **Next** to continue.

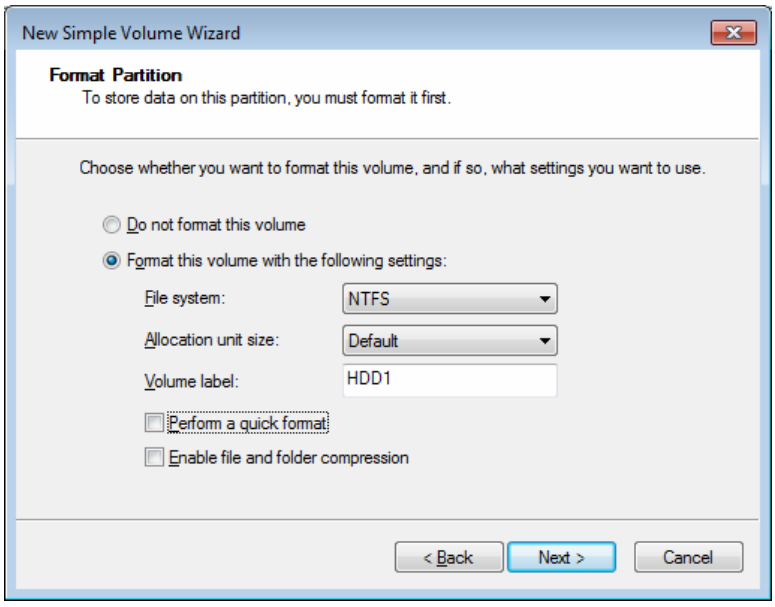
5. The default partition size is the same as the maximum disk space. Make changes if necessary and click **Next** to continue.



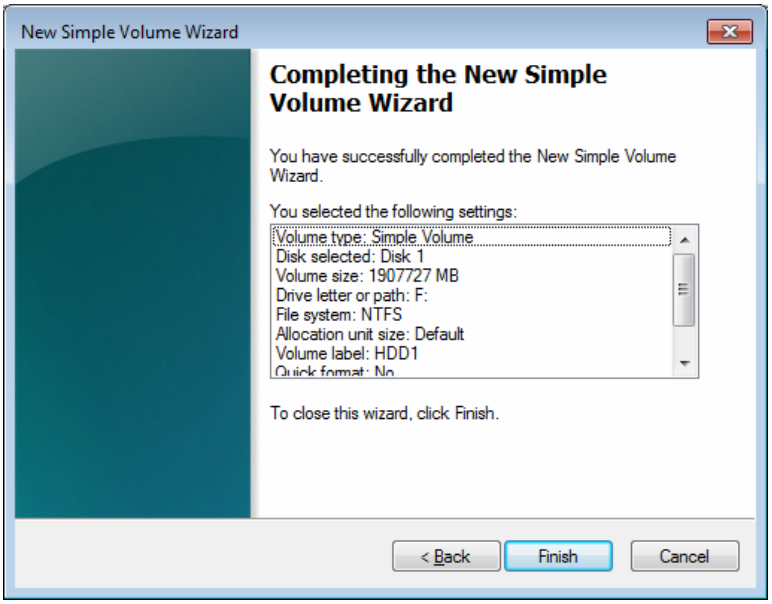
6. Assign a drive path that is not in use by other devices and click **Next** to continue.


New Simple Volume Wizard
Assign Drive Letter or Path
For easier access, you can assign a drive letter or drive path to your partition.
Assign the following drive letter:
F
Mount in the following empty NTFS folder:
Browse...
Do not assign a drive letter or drive path
< Back
Next >
Cancel

7. Type a name in the **Volume label** box, ex. HDD1, and click **Next** to continue.


New Simple Volume Wizard
Format Partition
To store data on this partition, you must format it first.
Choose whether you want to format this volume, and if so, what settings you want to use.
Do not format this volume
Format this volume with the following settings:
File system:
NTFS
Allocation unit size:
Default
Volume label:
HDD1
Perform a quick format
Enable file and folder compression
< Back
Next >
Cancel

8. When the formatting is complete, click **Finish** to close the wizard.


New Simple Volume Wizard
Completing the New Simple Volume Wizard
You have successfully completed the New Simple Volume Wizard.
You selected the following settings:
Volume type: Simple Volume
Disk selected: Disk 1
Volume size: 1907727 MB
Drive letter or path: F:
File system: NTFS
Allocation unit size: Default
Volume label: HDD1
Quick format: No
To close this wizard, click Finish.
< Back
Finish
Cancel

2.5 Configure the IP Address

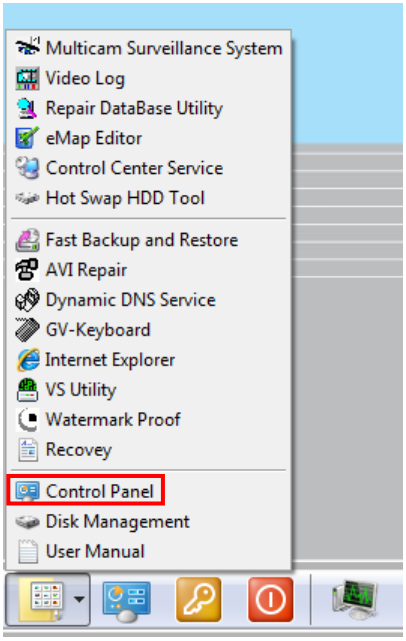
GV-Mobile NVR System supports remote monitoring, control and configuration over a network connection. The following default IP addresses will automatically be assigned.

- **Connection 1: 192.168.0.200**
- **Connection 2: 192.168.0.201**
- **Default Subnet Mask: 255.255.252.0**

The local area connections listed correspond to the Ethernet ports as shown below:

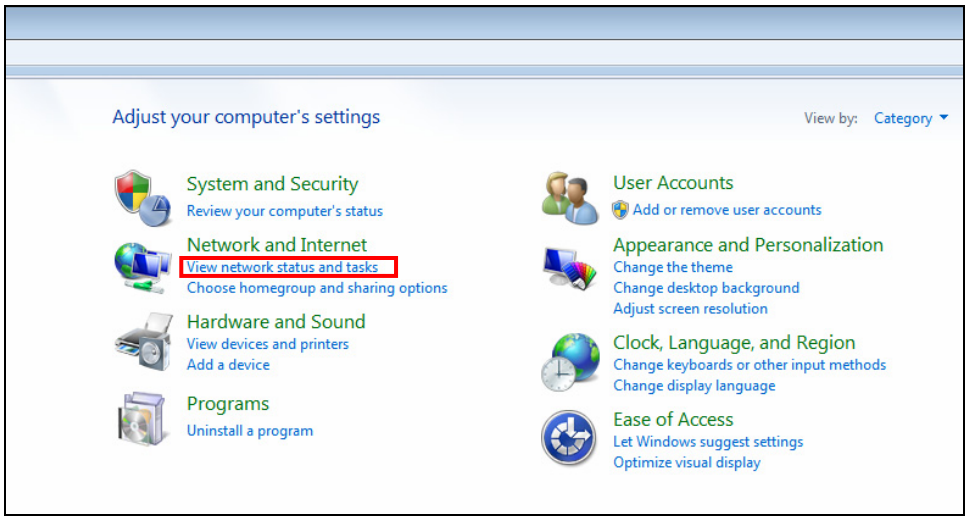
To change the above default IP addresses, follow the steps below.

1. On the GV-Desktop, click the **Programs** button, and select **Control Panel**.

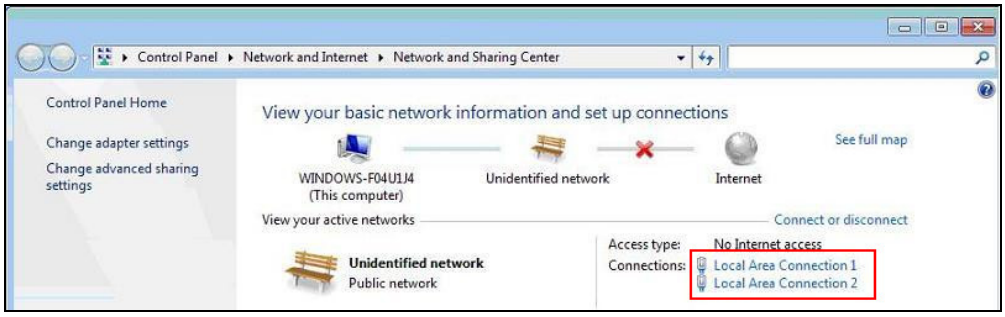


2. Type the ID and password. The default ID and password are "**0000**". The Control Panel window appears.

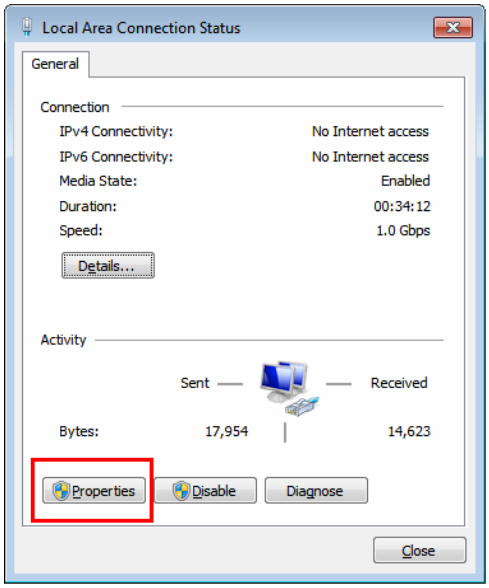
3. Under Network and Internet, click **View network status and tasks**.



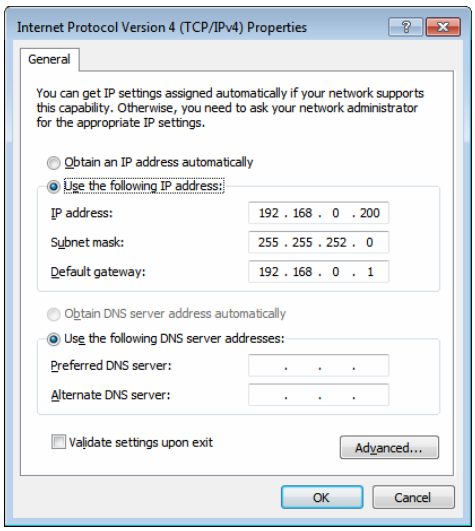
4. Under Connections, select the **Local Area Connection** you want to configure.



5. Select **Internet Protocol Version 4 (TCP/IPv4)**, and select **Properties**.



6. Select **Use the following IP address** and type the new IP information in the fields. Or select **Obtain an IP address automatically** to enable dynamic IP address.


Internet Protocol Version 4 (TCP/IPv4) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 200
Subnet mask:
255 . 255 . 252 . 0
Default gateway:
192 . 168 . 0 . 1
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel

7. Click **OK** to finish the setting.

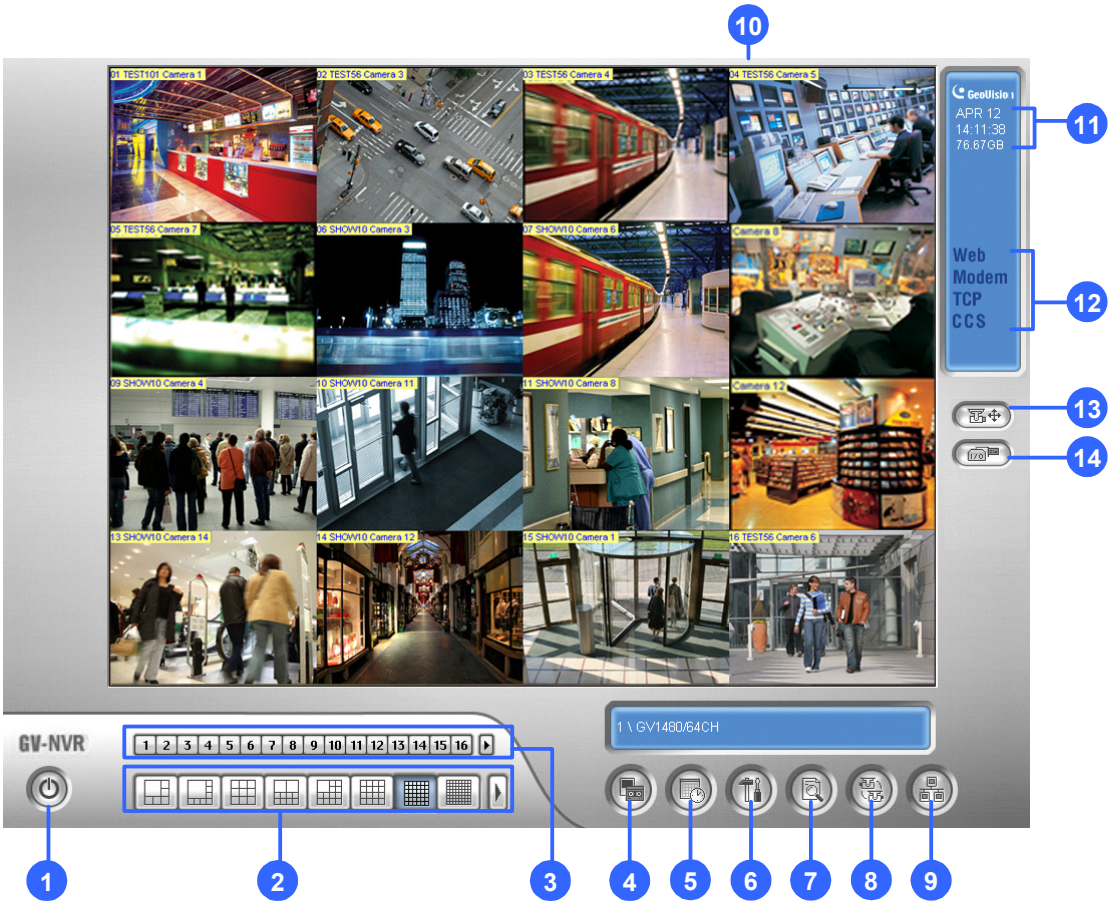
2.6 Exiting to Windows

The unit is protected by GV-Desktop that is limited to run the selected programs. If you need to exit to Windows desktop, follow the steps below.

1. On the GV-Desktop, click the **Settings** button, and type the valid ID and password. The default ID and Password are "**0000**". The Settings dialog box appears.
2. Under Desktop Type, select **Windows** from the drop-down list, and click **OK**.
3. Click the **Log Off** button, and type the ID and Password to display the Windows desktop.

3. Accessing GV-Mobile NVR System

3.1 Main Screen

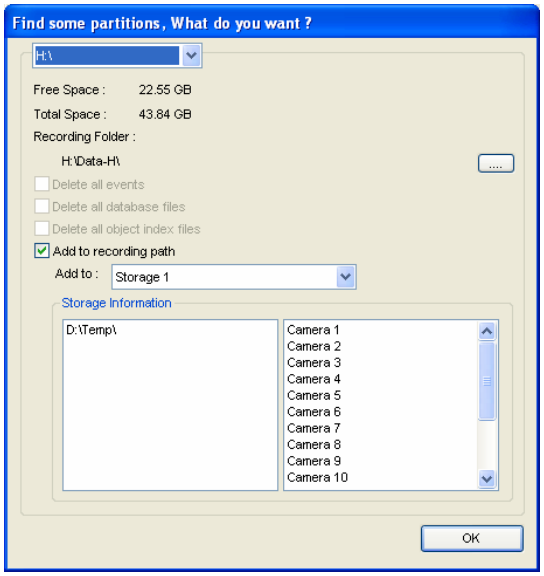


1. Logout / Exit / Minimize
2. Select screen divisions
3. Select a camera for full screen mode
4. Start/stop recording
5. Set up recording schedules
6. Access system settings
7. Access ViewLog to play back video
8. Start/stop screen rotation
9. Access remote applications
10. Camera Name
11. Date / Time / Storage Space
12. Status indicators for remote applications
13. Click to call up PTZ Control Panel
14. Click to call up I/O Control Panel

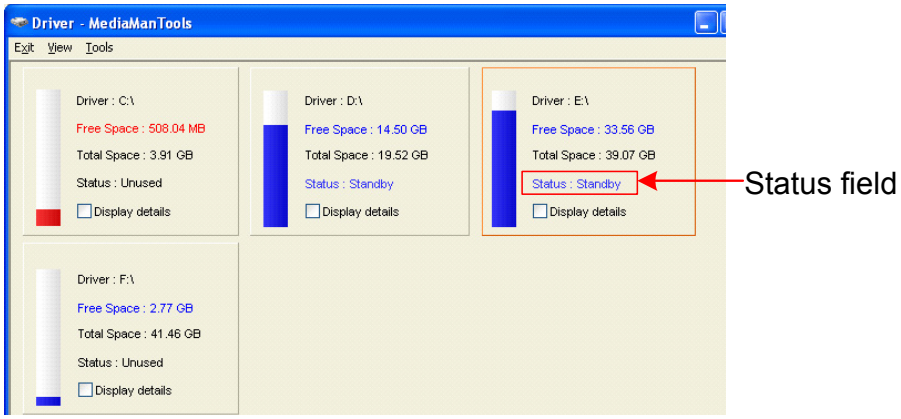
3.1 1 Adding a Storage Drive to the Recording Path

Before recording, you need to add the formatted storage drive to the recording path.

1. On the GV-Desktop, click the **Programs** button and select **Hot Swap HDD Tool**.
2. If a storage drive is already inserted, right-click it in the MediaMan Tools window, select **Add for recording** and select the storage group from the drop-down list.
3. If a storage drive is not inserted, follow the steps below.
   A. Insert a HDD / SSD to the GV-Mobile NVR System. This dialog box appears.



   B. Click **Add to recording path** and select the storage group from the drop-down list.
4. Click **OK** to automatically configure the storage drive to the recording path.
5. In the MediaMan Tools window, if a storage drive is successfully added to store data, its Status field should display “Standby”.

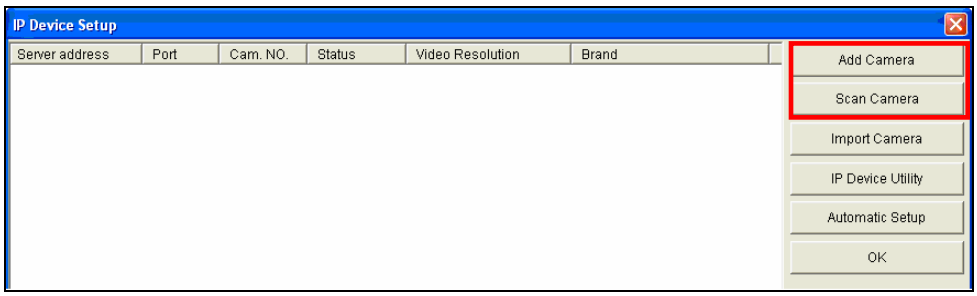


6. To add another formatted storage drive, repeat the above steps.

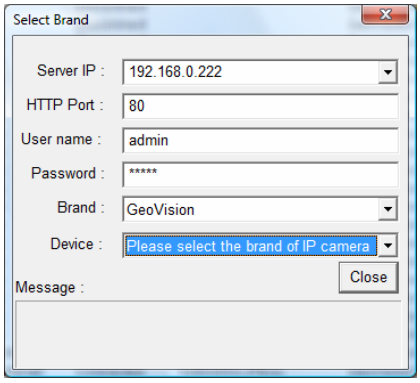
3.1.2 Adding IP Cameras

The following instructions are the setup procedure for adding an IP camera in the system.

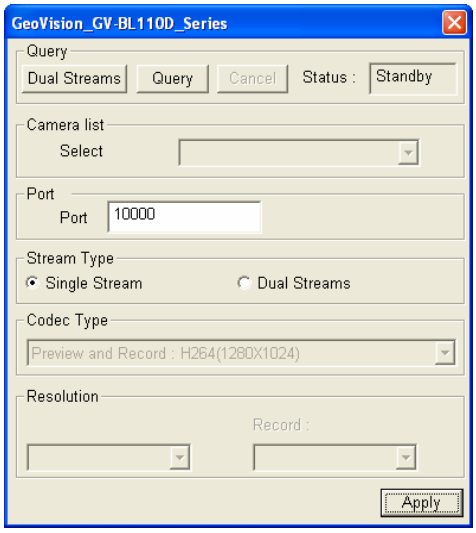
1. On the main screen, click the **Configure** button , select **System Configure** and click **IP Camera Install**.
2. To automatically add an IP camera on the LAN, click **Scan Camera.** To manually set up an IP camera, click **Add Camera** and follow the steps below.



3. Type the IP address, username and password of the IP camera. Keep the default HTTP port 80 or modify if necessary.



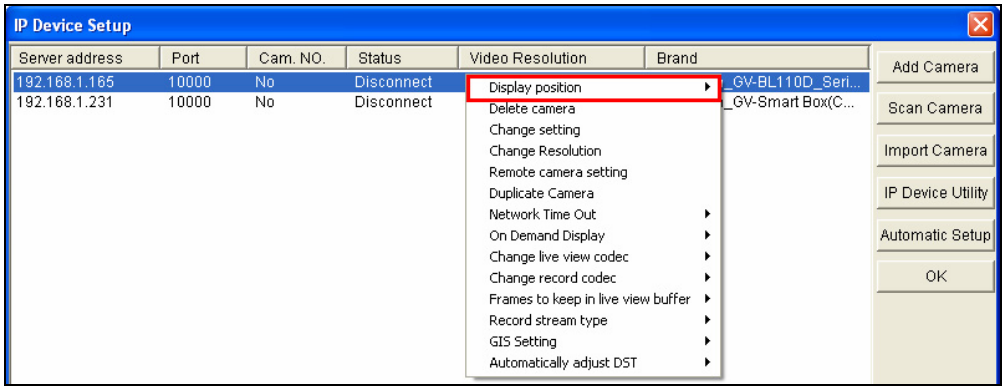
4. Select a camera brand and model from the **Brand** and **Device** drop-down lists respectively. This dialog box appears.



5. The options in the dialog box may vary depending on camera brands.

- **Dual Streams:** Click the button to apply the default codec and resolution of the GV-IP camera.
- **Query:** Use the current codec and resolution setting on the GV-IP camera.
- **Camera list:** Select a camera number.
- **Port:** Keep or modify the default video streaming port 10000.
- **Stream Type:** You may have the option of single or dual streaming depending on camera models.
- **Codec Type:** You may have different codec options depending on camera models. If the selected camera supports dual streaming, the preview codec and recording codec can be set differently.
- **Resolution:** Select the resolutions for preview and recording.

6. Click **Apply**. The IP camera is added to the list.
7. Right-click the camera and select **Display position** to map the camera to a channel.



8. The Status column now should display "**Connected**". Click **OK**.

3.1.3 Renaming the Camera

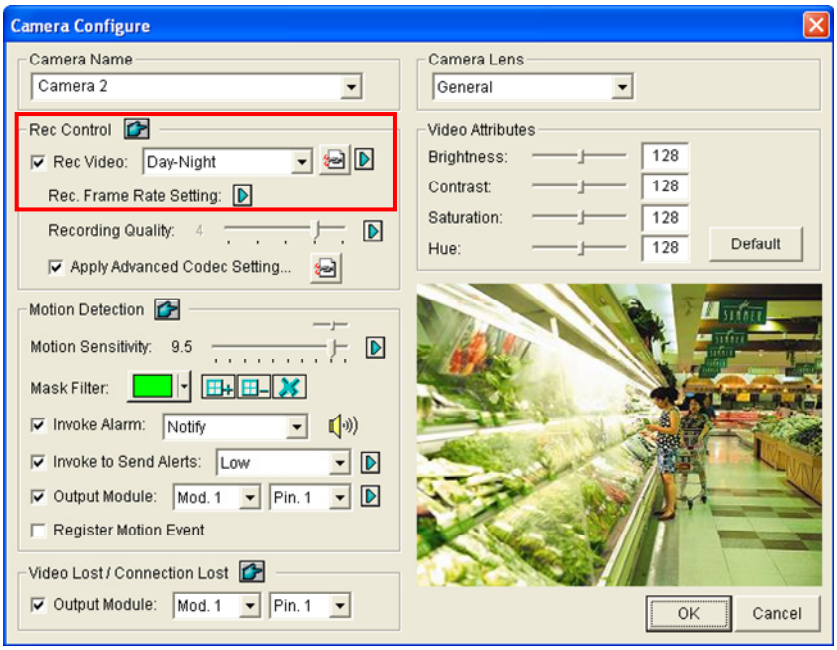
1. Click on the main screen, click **System Configure** and select **Camera Configure**.
2. In the Camera Name field, type a new name for the camera.
3. Click **OK**.

3.1.4 Choosing Recording Mode

You can set each camera's recording mode individually for Motion Detection, Round-the-Clock or Day-Night.

1. Click on the main screen, click **System Configure** and select **Camera Configure**.
2. From the Camera Name drop-down list, select one camera.
3. In the Rec Control field, click **Rec Video** and use the drop-down list to select **Motion Detect**, **Round-the-Clock** or **Day-Night**.
4. If you select **Day-Night**, click the **Arrow** button after the Rec Video option to set up time frames.
5. Click **OK**.

For details on setting camera properties, refer to *Adjusting Individual Camera*, Chapter 1, *DVR User's Manual* (GV-Desktop < **Program** button < **User Manual**).

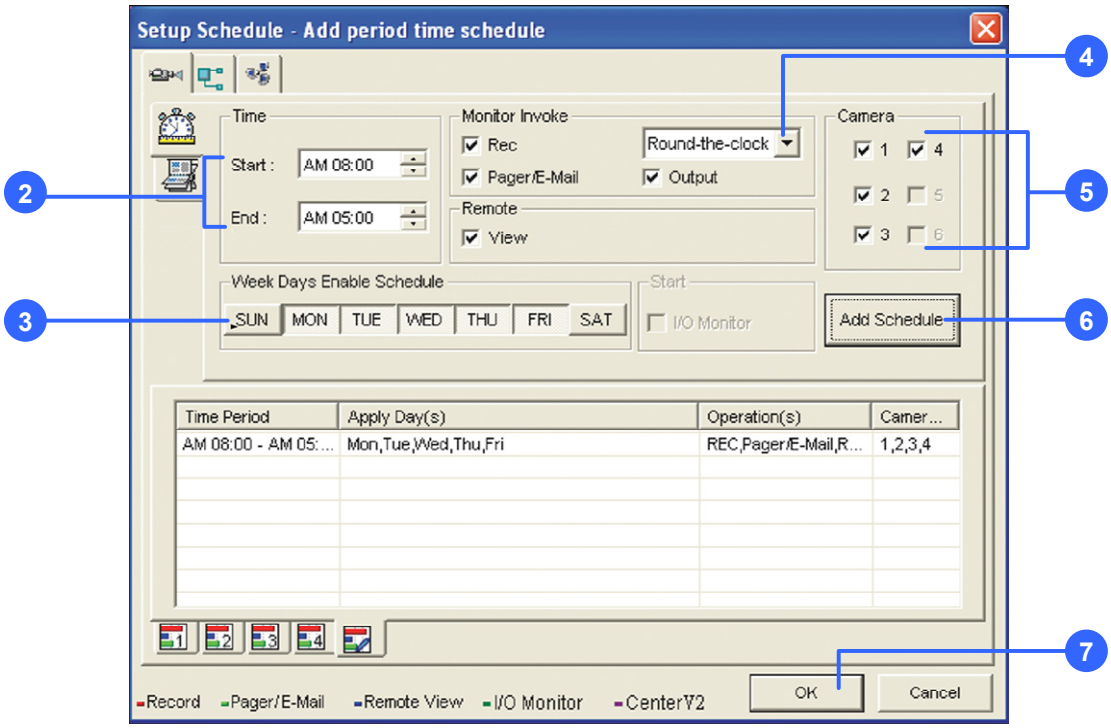


3.2 Setting up a Recording Schedule

You can program recording to turn on and off at a specific time each day.

1. Click on the main screen, and select **Schedule Edit**.
2. Select or enter the Start and End time of the schedule.
3. Select day(s).
4. Select **Rec** and use the drop-down list to select **Round-the-Clock** or **Motion Detect** for recording
   mode.
5. Select camera(s).
6. Click **Add Schedule**.
7. Click **OK**.

For details, refer to *Recording Schedule*, Chapter 1, *DVR User's Manual* (GV-Desktop < **Program** button < **User Manual**).



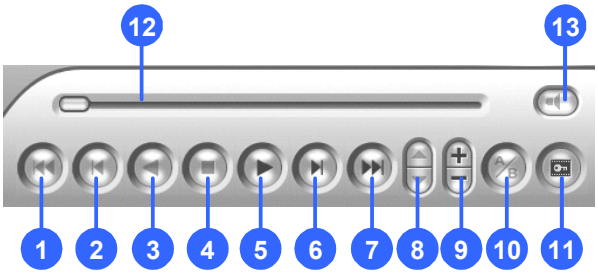
3.3 Playing Back Video

You can play back video recorded during a particular date and time.

1. Click on the main screen, and select **Video/Audio Log**.
2. Select the camera you wish to view.
3. Select a date folder from the date tree.
4. Select a time from the Video Events list.
5. Click to begin playback.

For details, refer to *Playing Back on ViewLog*, Chapter 4, *DVR User's Manual* (GV-Desktop < **Program** button < **User Manual**).

3.3.1 Playback Controls



No.	Description	No.	Description
1	Rewind to Beginning	8	Speed up/down
2	Frame-by-Frame Reverse	9	Zoom in/out
3	Rewind	10	A to B Playback
4	Stop	11	Frame-by-Frame / Real Time Playback
5	Play	12	Playback Scroll
6	Frame-by-Frame Forward	13	Audio on/off
7	Forward to End		

Using the Zoom

- **Zoom in:** Click the **Zoom-in** button, and then click on the area you want to magnify. Each click will increase the zoom level.
- **Zoom out:** Click the **Zoom-out** button, and then click on the image to zoom out. Each click will decrease the zoom level.

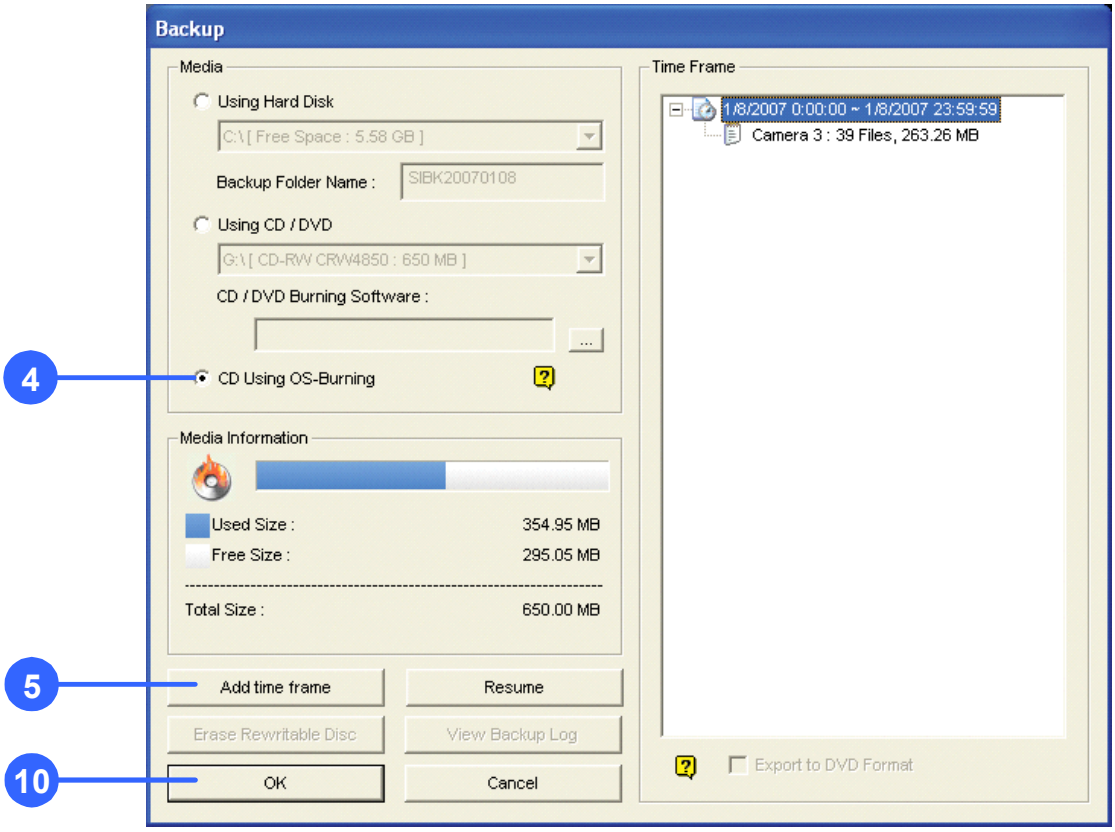
3.4 Backing Up Video Files

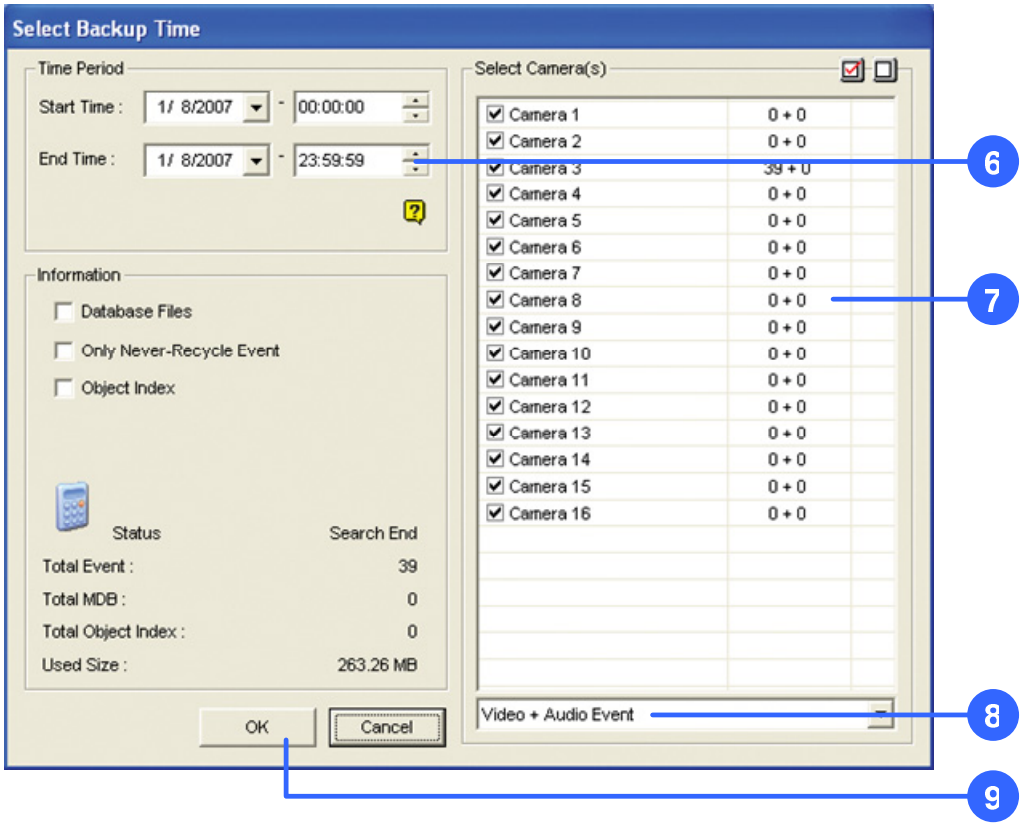
You can back up video files of the desired time to CD / DVD.

1. Insert the CD / DVD media into the drive.
2. Click on the main screen, and select **Video/Audio Log**.
3. Click on the functional panel.
4. Select **CD Using OS-Burning** to burn files with the inbuilt software of Windows.
5. Click **Add time frame**.

6. Enter the Start Time and End Time for backup.
7. Select the desired camera(s) for backup. The number of video and audio files of each camera is
   indicated respectively, e.g. “Camera 3 39+0” means the camera 3 has 39 video files and 0 audio file.
8. Select the types of events for backup, e.g. video, audio or both together.
9. Click **OK** to add the time frame. You can repeat steps 5-8 to create up to 10 time frames.
10. Click **OK** to start burning.

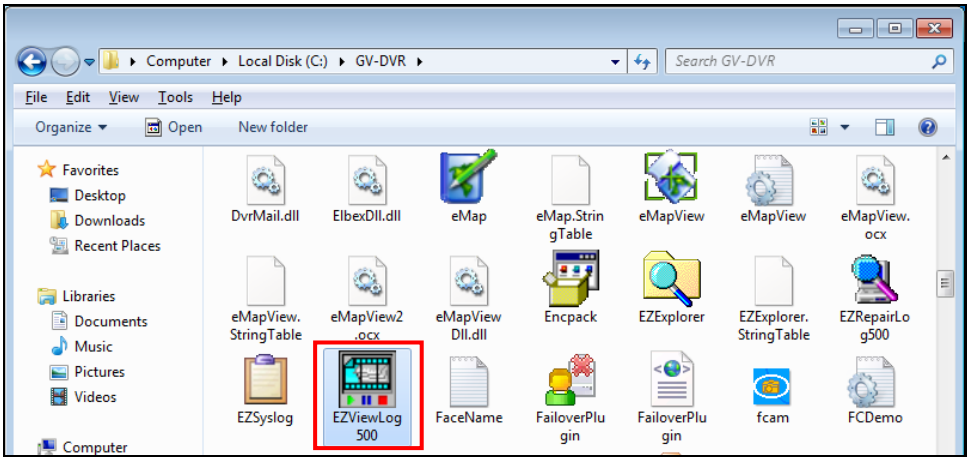
For details, refer to *Backing Up Video Files Using ViewLog,* Chapter 5, *DVR User's Manual* (GV-Desktop < **Program** button < **User Manual**).





3.4.1 Playing Backup Files

Open the backup folder, run **EZViewLog500.exe**, and then follow the instructions in the Play Back Video section.



4. System Restoration

You can restore preinstalled files once they are damaged by running the recovery from the hidden partition. To restore the operating system and all preinstalled software, follow the steps below.

Note: After recovery, you need to re-install all settings and passwords. But the recovery will not delete your recording files saved on the GV-Mobile NVR System since it only reformats the partition C and all of your files are still stored on other partitions.

1. On the GV-Desktop, click the **Program** button and select **Recovery**. The system will run this command by itself.

2. Restart the GV-Mobile NVR System.
3. Press **F11** button several times to avoid accessing the system.
4. When the below screen appears, press the **Recovery** button.

5. When the restoring process is completed, the screen will automatically show the GV-Desktop, and the system will restore the default values.